



**STATE OF MONTANA  
MONTANA DEPARTMENT OF TRANSPORTATION  
JOB PROFILE**



Update



Formal Review

**Date Submitted** \_\_\_\_\_

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***SECTION I - Identification***

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**Working Title:** Traffic Engineer

**Department:** Transportation

**Job Code Number:** 172516

**Division & Bureau:** Highways &  
Engineering

**Job Code Title:** Civil Engineering Specialist

**Section & Unit:** Traffic Engineering

**Pay Band:** 5

**Work Address:** 2701 Prospect Ave. Helena,  
MT, 59620

**Position Number:** 36035

**Phone:** 406-444-7218



FLSA Exempt



FLSA Non-Exempt



Non-Union



MPEA



Blue Collar

**Profile Completed By:** Stanton E. Brelin II

**Work Phone:** 406-444-6135

***Work Unit Mission Statement or Functional Description:***

The Traffic Operations Engineering Section is responsible for all capacity analysis and traffic-related corridor studies conducted by the Department; providing analysis and recommendations related to traffic operations on Planning Division led corridor studies, reviewing and providing recommendation of traffic operational design of consultant work on various engineering projects; and reviewing and fulfilling special requests to conduct studies involving traffic control devices of all forms (e.g., signs, traffic signals, roundabouts, etc.) and providing recommendations to District staff regarding construction projects and maintenance functions. This section is also responsible to operate all state maintained traffic signals throughout the state which includes traffic signal turn-ons and implementing/optimizing timing plans. This section also conducts all speed zone and school crossing studies and investigations for all federal-aid highways throughout the state. In addition, the Section provides expert consultation and review to the public, including information for consultants, developers, cities, counties, private citizens, and other state and federal agencies.

***Describe the Job's Overall Purpose:***

This position performs professional Traffic Engineering studies in both urban and rural roadway environments. The position is also responsible for geometric design of both urban and rural intersection, interchanges, and roadway sections using current geometric design practices and techniques. This position identifies traffic control needs for roadways, intersection, and/or freeway interchanges. This position review traffic engineering work performed by outside entities including consultant work for both MDT and private development projects. This position also provides technical traffic engineering assistance to other offices both in the headquarters and the districts as well as local government and the general public.

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**SECTION II - Major Duties or Responsibilities**

*This section should be a clear concise statement of the position's major duties and the approximate percent of work time for each duty*

**% of Time**

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**ENGINEERING**

**100%**

1. Performs traffic engineering studies in both urban and rural roadway environments completed by the section. In addition to completing studies assigned to the section, this position is also responsible to conduct a review of studies completed by consultants. These studies are intended to:

- a. Review the existing facilities and compare the existing functional capabilities of these facilities to the present functional demands placed on them.
- b. Identify the capability of the existing facility to accommodate anticipated increases and/or changes in functional demand in a safe and efficient manner.
- c. Determine appropriate action plans to address the inadequacies of the facilities under review.

This is accomplished through an appropriate combination of the following engineering analysis techniques organized to fit the individual needs of each assignment. Examples of those analysis techniques are: traffic control assessment (passive control-warning, regulatory, informational and active control- traffic signals), roadway functional class assessment, planning review, accident analysis, capacity analysis, pedestrian studies, and geometric analysis. The action plan is developed through comprehensive interpretation of the results of the above studies related to the proposed goals of the assigned project using current transportation and traffic engineering practices. These assignments also require the results to be reported effectively in writing, graphically, and through oral presentation.

These studies are conducted in response to requests from the district and design offices, such as road design and consultant design, as well as directed at planning related needs of the department's planning division, local planning staffs, and government officials.

2. Participates in the review of pre-NEPA/MEPA planning corridor studies that have traffic engineering elements.

3. Reviews traffic impact studies (TIS) completed by developers.

4. Provides analysis on traffic management plans (TMP) for design projects. This entails providing traffic engineering analysis and solutions to ensure the safe and efficient movement of traffic through construction zones.

5. Participates in complex traffic analysis of roadways and intersections using advanced traffic engineering software (e.g. VISSUM, Synchro, TEPAC, etc.). The advanced software is used to model existing and proposed conditions and to provide an animation of the results that can be used to inform the public and decision makers.

6. Identify traffic control needs for a wide variety of roadways, intersections, and/or freeway interchanges. This includes clearly and accurately isolating the problem(s) to be addressed, choosing the traffic control or combination of traffic control measures to be deployed, coordinating changes in roadway configuration if necessary, and documenting the correlation between the problem and solution that justifies the action being recommended. This is done to identify the scope or the level of delineation and verbal communication the motorists will need to make appropriate decisions within a highway corridor. It is accomplished through the use of engineering analysis techniques and understanding of the standards and alternatives available in the Manual On Uniform Traffic Control Devices. This type of work is directed at the departments design projects, operational activities, maintenance activities, and individual requests from the public and local officials.

7. Provide technical traffic engineering assistance to other offices both in the headquarters and the districts as well as local government and the general public using formal written reports, oral presentations at public hearings and/or meetings, and individualized consultations both in person and by telephone.

8. Geometric design of both urban and rural intersections (signalized and non-signalized), interchanges (all types) and roadway sections using current geometric design practices and techniques. This requires applying substantial ingenuity into the development of designs that can be widely varied and individualized. This type of work varies substantially from project to project.

This duty involves advanced technical assessment of the physical alignment (vertical and horizontal), travel lane distribution, traffic volume carrying potential, conflicting directional destinations of the motorist and other modes, the vehicle mix in the traffic stream, and the type of or mix of facilities (ie. freeway and/or local arterial).

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1. ***The following duties and/or specific tasks listed under section II above are considered "essential functions" because they require specialized expertise and skill and are the primary reasons the job exists (they must be performed by this position with or without accommodations):***

***The following mental and physical demands are associated with these essential functions:***

#### **PHYSICAL**

- This position requires travel throughout the state typically once per month but sometimes more. The travel often requires one or more overnight stays.
- This position requires working on open roadway conditions in high speed moving traffic.
- Light lifting (less than 20lbs).
- Operating a personal computer.
- Work for long periods of time at a work station or meeting format.
- Ability to sit in a vehicle for 2 or more hours without a break.
- Exposure to extreme weather

#### **MENTAL**

- Clearly communicate in writing, in person or over the phone.
- Ability to multi-task.
- Ability to change tasks on short notice.
- Ability to analyze, compile, coordinate and produce a summary of the multiple data sets.
- Demands for accuracy in all aspects of the work.
- Computing arithmetic operations

2. Does this position supervise others? ☐ Yes ☒ No

Number directly supervised:

Position Number(s) of those supervised:

3. Attach an Organizational Chart.

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**SECTION III - Minimum Qualifications - List minimum requirements for the first day of work.**

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**Critical knowledge and skills required for this position:**

**KNOWLEDGE:**

This position requires entry level knowledge of the principles and practices of civil engineering technology and related advanced mathematics and physical sciences (for example, trigonometry, algebra, soil mechanics, hydrology, etc.). The position also requires basic knowledge of the methods and practices of highway design, and related policies, methods, procedures, and regulations; surveying and related mathematics; and applicable State, federal, AASHTO, and FHWA requirements, standards, and specifications.

**SKILLS:**

- The applicant must be able to produce effective written and verbal communication for a variety of audiences.
- The applicant should be able to develop and maintain professional working relationships.
- The candidate should be familiar with and can operate various types of office equipment.

**Behaviors required to perform these duties:**

See MDT Core Behaviors

**Education:**

Check the one box indicating minimum education requirements for this position for a new employee the first day of work:

- |   |  |
|---|--|
| <input type="checkbox"/> No education required                | <input type="checkbox"/> Related AAS/2-years college/vocational training |
| <input type="checkbox"/> High school diploma or equivalent    | <input checked="" type="checkbox"/> Related Bachelor's Degree            |
| <input type="checkbox"/> 1-year related college/voc. training | <input type="checkbox"/> Related Master's degree                         |

**Please specify the acceptable fields of study:**

*Acceptable: Civil Engineering or Civil Engineering Technology*

**Other education, training, certification, or licensing required (specify):**

**Passing score on the Fundamentals of Engineering Exam (FE) or certification as an Engineer Intern.**

**Experience:**

Check the one box indicating minimum work-related experience requirements for this position for a new employee the first day of work:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> No prior experience required | <input type="checkbox"/> 3 years         |
| <input type="checkbox"/> 1 year                                  | <input type="checkbox"/> 4 years         |
| <input type="checkbox"/> 2 years                                 | <input type="checkbox"/> 5 or more years |

**Other specific experience (optional):**

**Alternative Qualifications:**

This agency will accept alternative methods of obtaining necessary qualifications.

☐ Yes ☐ No

**Alternative qualifications include:**

None

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***SECTION IV – Other Important Job Information***

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|--|--|
| <input type="checkbox"/> Fingerprint check | <input checked="" type="checkbox"/> Valid driver's license |
| <input type="checkbox"/> Background check  | <input type="checkbox"/> Other; Describe                   |

Other information including working conditions such as shifts, lifting requirements, travel or hours.

This position requires travel often overnight and may involve multiple days or even weekends. Field work is often performed in close proximity to high speed moving traffic. Requests to travel may be on short notice.

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**SECTION V – Signatures**

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Signature indicates this statement is accurate and complete.

***Employee:***

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Immediate Supervisor:***

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Bureau Chief:***

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Division/District Administrator:***

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Department Designee:***

Brent Rabe/Designee

Human Resources Administrator  
Human Resources Division

Signature: \_\_\_\_\_ Date: \_\_\_\_\_